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10/821,286

04/09/2004

Peter J. Hopper

100-24600 (P05851)

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1333 7590 02/28/2005

PATENT LEGAL STAFF
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EXAMINER

NGUYEN, CUONG QUANG

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|-------------------------------|--|
| Office Action Summary | Application No. 10/821,286 | Applicant(s) HOPPER ET AL. | |
| | Examiner Cuong Q. Nguyen | Art Unit 2811 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 15-20 is/are pending in the application.
 4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 11 is/are rejected.
- 7) ☒ Claim(s) 3-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>04-09-04</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of Group I, claims 1-11 and canceling non-elected claims 12-14 on 01-14-05 are acknowledged. Non-elected claims 15-20 which depend on canceled claims 12-14 are also withdrawn from consideration and should be cancel in the next amendment.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Shum (US 6,841,824).

Regarding claims 1 and 11, Shum discloses a semiconductor circuit comprising: a MOS transistor having spaced-apart source and drain regions of a first conductivity type (n-type) that contact a semiconductor region (a p-well 41) of a second conductivity type, the semiconductor region having a top surface, one of the source and drain regions having a first bottom point that lies furthest away from the top surface, and a first depth

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measured from the top surface to the first bottom point along a line perpendicular to the top surface; a channel region located between the source and drain regions; and a gate formed over, and insulated from, the channel region; and a cell having: spaced-apart source and drain regions of the first conductivity type that contact the semiconductor region, one of the source and drain regions of the imaging cell having a second bottom point that lies furthest away from the top surface, and a second depth measured from the top surface to the second bottom point along a line perpendicular to the top surface; a channel region located between the source and drain regions of the cell; and a floating gate (22) formed over, and insulated from, the channel region of the cell, a control gate (26) formed over and insulated from the floating gate. See Fig.8.

The term " imaging" in claim 1 is taken to be mere statements of intended use which does not add any structure, therefore it has not been given any patentable weight.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danley, 120 USPQ 528, 531 (CCPA 1959).

"Apparatus claims cover what a device is, not what a device does." (emphasis in original) Hewlett - Packard Co. V. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than

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function. In re Danley, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does." (emphasis in original) Hewlett - Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). In apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art.

It is noted that, the floating gate in Shum's device stores a digital data, so the memory cell in Shum's device is inherent functioning as an imaging cell as claimed.

Regarding claim 2, as shown in Shum's Fig. 8, the second depth is substantially larger than the first depth.

Allowable Subject Matter

3. Claims 3-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is an examiner's statement of reasons for allowance: Shum appears to be the closest prior art reference. However, this reference fails to teach a control gate. Prior art of record fails to teach or suggest to incorporate this limitation into Shum to arrive at the claimed device.

Conclusion

5. Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 872-9306. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

6. Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to CUONG Q NGUYEN whose telephone number is (571) 272-1661. The Examiner is in the Office generally between the hours of 6:30 AM to 5:00 PM (Eastern Standard Time) Monday through Thursday.

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7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Eddie Lee who can be reached on (571) 272-1732.

8. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center Receptionists whose telephone number is 308-0956.

A handwritten signature in black ink, appearing to read 'Cuong Nguyen', with a stylized, cursive script.

Cuong Nguyen

Primary examiner

2/22/05